Notice of Allowability	Application No.	Applicant(s)	
	10/029,065	KIPP ET AL.	
	Examiner	Art Unit	
	David H Kruse	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Amendment filed 22 September 2004*.

2. ☒ The allowed claim(s) is/are *2,4-6,9-16,19-23,25-33,35-37,41 and 43*.

3. ☒ The drawings filed on *20 December 2001* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *SAME* .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David M. Saravitz on 7 December 2004.

The application has been amended as follows:

Claim 2. (Amended) An isolated nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence set forth in SEQ ID NO: 1 or 3;

(b) a nucleotide sequence encoding the amino acid sequence set forth in SEQ ID NO: 2 or 4;

(c) a nucleotide sequence encoding residues 1-265 of the amino acid sequence set forth in SEQ ID NO: 2 or 4;

(d) an antisense nucleotide sequence [corresponding to] of the nucleotide sequence of (a), (b) or (c);

[(e) a nucleotide sequence comprising at least 85% sequence identity to at least one nucleotide sequence selected from the group consisting of SEQ ID NOS:1 and 3, wherein said nucleotide sequence encodes a protein comprising mismatch-repair activity and percent sequence identity is obtained using GAP version 10 with a GAP Weight of 50 and a Length Weight of 3;

(f) a nucleotide sequence comprising at least 50 contiguous nucleotides of at least one nucleotide sequence selected from the group consisting of SEQ ID NOS:1 and 3, wherein said nucleotide sequence encodes a protein comprising mismatch-repair activity;

(g) a nucleotide sequence that hybridizes under stringent conditions to the complement of at least one nucleotide sequence selected from the group consisting of SEQ ID NOS:1 and 3, wherein said nucleotide sequence encodes a protein comprising mismatch-repair activity and said stringent conditions comprise hybridization in a solution comprising 50% formamide, 1 M NaCl, and 1% SDS at 37°C and a wash in a solution comprising 0.1X SSC at 60°C;]

(e) [(h)] a nucleotide sequence encoding a fragment or variant of the amino acid sequence set [for] forth in SEQ ID NO: 2 or 4, wherein said fragment or said variant confers a dominant-negative phenotype in a host cell and said variant has at least [85%] 95% sequence identity to at least one amino acid sequence selected from the group consisting of the amino acid sequences set forth in SEQ ID NOS: 2 and 4[, and wherein percent sequence identity is obtained using GAP version 10 with a GAP Weight of 50 and a Length Weight of 3];

(f) [(i)] a nucleotide sequence encoding an amino acid sequence having at least [85%] 95% sequence identity to at least one amino acid sequence selected from the group consisting of the amino acid sequences set forth in SEQ.ID NOS: 2 and 4, wherein said nucleotide sequence encodes a protein comprising mismatch-repair

activity[and percent sequence identity is obtained using GAP version 10 with a GAP Weight of 50 and a Length Weight of 3]; and

(g) [(i)] nucleotides 1-797 of SEQ ID NO: 1.

Claim 26 (Amended) A method for altering DNA repair processes in a plant comprising introducing into a plant a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence set forth in SEQ ID NO: 1 or 3;

(b) a nucleotide sequence encoding the amino acid sequence set forth in SEQ ID NO: 2 or 4;

(c) a nucleotide sequence encoding residues 1-265 of the amino acid sequence set forth in SEQ ID NO: 2 or 4;

(d) an antisense nucleotide sequence [corresponding to] of the nucleotide sequence of (a), (b) or (c);

[(e) a nucleotide sequence comprising at least 85% sequence identity to at least one nucleotide sequence selected from the group consisting of SEQ ID NOS:1 and 3, wherein said nucleotide sequence encodes a protein comprising mismatch-repair activity and percent sequence identity is obtained using GAP version 10 with a GAP Weight of 50 and a Length Weight of 3;

(f) a nucleotide sequence comprising at least 50 contiguous nucleotides of at least one nucleotide sequence selected from the group consisting of SEQ ID NOS:1 and 3, wherein said nucleotide sequence encodes a protein comprising mismatch-repair activity;

(g) a nucleotide sequence that hybridizes under stringent conditions to the complement of at least one nucleotide sequence selected from the group consisting of SEQ ID NOS:1 and 3, wherein said nucleotide sequence encodes a protein comprising mismatch-repair activity and said stringent conditions comprise hybridization in a solution comprising 50% formamide, 1 M NaCl, and 1% SDS at 37°C and a wash in a solution comprising 0.1X SSC at 60°C;]

(e) [(h)] a nucleotide sequence encoding a fragment or variant of the amino acid sequence set [for] forth in SEQ ID NO: 2 or 4, wherein said fragment or said variant confers a dominant-negative phenotype in a host cell and said variant has at least [85%] 95% sequence identity to at least one amino acid sequence selected from the group consisting of the amino acid sequences set forth in SEQ ID NOS: 2 and 4[, and wherein percent sequence identity is obtained using GAP version 10 with a GAP Weight of 50 and a Length Weight of 3];

(f) [(i)] a nucleotide sequence encoding an amino acid sequence having at least [85%] 95% sequence identity to at least one amino acid sequence selected from the group consisting of the amino acid sequences set forth in SEQ ID NOS: 2 and 4, wherein said nucleotide sequence encodes a protein comprising mismatch-repair activity[and percent sequence identity is obtained using GAP version 10 with a GAP Weight of 50 and a Length Weight of 3]; and

(g) [(i)] nucleotides 1-797 of SEQ ID NO: 1.

Claims 38-40 and 42 have been cancelled.

Claim 41 (Amended) An isolated nucleic acid molecule comprising a nucleotide sequence encoding an amino acid sequence having at least [90%] 95% sequence identity to at least one amino acid sequence selected from the group consisting of the amino acid sequences set forth in SEQ ID NOS: 2 and 4, wherein said nucleotide sequence encodes a protein comprising mismatch-repair activity [and percent sequence identity is obtained using GAP version 10 with a GAP Weight of 50 and a Length Weight of 3].

2. On 2 December 2004, the Examiner proposed amendments to claims 2, 26 and 41 that would put the application in condition for allowance. Applicant's attorney on 7 December 2004, conveyed that Applicant approved the Examiner's proposed amendments.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (571) 272-0799. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Amy Nelson can be reached at (571) 272-0804. The fax telephone number for this Group is (703) 872-9306 Before Final or (703) 872-9307 After Final.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-0547.

DAVID H. KRUSE, PH.D.
PATENT EXAMINER

David H. Kruse, Ph.D.
7 December 2004

4. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.